Quantum Phonon Generation Method for Facilitation of the Creation of Nanoscale Gyroid Structures for Strong, Lightweight Construction Materials via Variable Intensity Coulomb Force Generation Approach

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Introduction

When we want to generate a strong Coulomb Force line, one of the primary methods currently relied upon is the use of crystals with aligned electrons. While this approach is ideal for instances wherein electrostatic-comparable field strengths are called for, the fixed positional relationships between the structures of crystals fundamentally limit the number of ways in which crystal-generated Coulomb Force lines may be utilized.

While traditional additive manufacturing processes may be used to construct gyroidal structures, if the gyroidal fractal extends to the nano-level, a further enhancement of structural strength would be achievable. Perhaps the most viable means of achieving this would be through extremely focused sound-waves.

Abstract

During the process of solidification of any molten substance, changes can be made to the structure at the micro- and nano-level at far lower temperatures than the melting point. During additive manufacturing, vibrational energy of a particular harmonic can be introduced after primary solidification but before temperature decreases to the point at which these sorts of changes can no longer be made.

As the intent is to create micro and nano-scale structures which are also gyroidal the acoustic energy would need to be relatively strong and focused. Materials such as GaTe2 or other materials which are capable of converting electrical energy into phononic energy may be used to achieve this goal, with an emphasis being on emitting phononic energy which spirals after emission in order to imprint the unique gyroidal geometry within increasingly granular domains of scale.

Conclusion

The end result should be an efficiently generated nanoscale metallic gyroid structure with exceptionally low density and high strength.